With the help of my mentors Kaleen Shrestha and Nathan Dennler I used a Socially Assistive Robot (SAR) called Blossom. The Blossom I used will be part of a study that looks into using SARs to help 3rd to 5th graders practice peer mediation by roleplaying a conflict between two SARs. Blossom uses motors and different 3D printed parts, made by the Interaction Lab [2] that created an affordable version of the original Blossom design [1], to move and create co-speech gesture.

Research goal: Designing and programming Blossom idle movements when not the active speaker in the conversation.

**Skills Learned**

- Coding using Python in a real world application
- Utilizing existing code and apply it to my own work
- Using the Command Line interface to run programs and different software as well as navigating the computer
- Using git and GitHub to backup work on the internet and share work on different devices with team members
- Investigating hardware and software issues with the Blossom robot
- The nature of human conversation, mannerisms and speech patterns

**Objective & Impact of Professor’s Research**

Professor Maja Matarić’s research focuses on helping society using SARs like Blossom. These robots that she works with have a strong emphasis on helping people with special needs in education and communication. The Interaction Lab has a strong motivation to help people in our society using robots to aid the daily lives of people, and make skills that are difficult for some easier.

**How This Relates to Your STEM Coursework**

I had prior knowledge when entering the Interaction Lab. I often like to build small robots at home, and work with a lot of LEGOs I also enjoyed my coding class I took a couple years ago so this was a nice refresher from that. What the Interaction Lab has done for me is show me how this STEM knowledge and coursework can be applied to real life issues. I learned the importance of the field and learned how motivated you have to be going into the field. There are issues daily, but they always seem to get resolved, and that has given me hope especially when I think about my future.

**Additional Skills:**

- Learning how to read and understand scientific literature when approaching research in STEM
- Learning how a lab functions in a university setting and how research is conducted
- Learned how to crochet Blossom’s exterior using a given template!

**Research: Creating Idle Motions For a Blossom Robot In a Peer Mediation Role-play Activity For Students**

Lina Cryer, Interaction Lab
Marymount High School, Class of 2025
USC Viterbi Department of Computer Science, SHINE 2024

**How This Relates to Your STEM Coursework**

The advice that I have for future SHINE students is to have motivation. Have the motivation to see how your project will benefit society. Ask questions, no one is judging you for it, they are actually praising you for it. Make sure to have an outlet and know your limits. Personally sitting staring at code for hours on end is tiring, even if I was just sitting. Getting up to walk to get a snack or get fresh air was more helpful than words can convey. Lastly my advice is to make friends while you are here because it can be helpful. It is helpful if there are questions you’d rather ask a peer and its helpful when you need someone to lean on. Just have fun and make mistakes because afterall it is summer!

**Acknowledgements and Citations**

Thank you Kaleen and Nathan! I would also like to thank Professor Matarić for her kind words during our meetings. Lastly I appreciate the Interaction Lab for welcoming us SHINE students into their space.

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**Figure 1:** Blossom Robots interacting during the study

**Figure 2:** A screenshot of one of the for-loops that is responsible for one of Blossoms sequences. (The Interaction Lab has made this information public and accessible on GitHub.com)

**Figure 3:** The inner workings of Blossom

**Figure 4:** The customizability of Blossom (there are dedicated videos about customizing Blossom online)

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